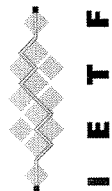


NOTE FOR VISTO V. MICROSOFT SUMMARY JUDGMENT EXHIBIT: NON-CITED PAGES ARE NOT INCLUDED.  
FULL DOCUMENT AVAILABLE AT [HTTP://EDU.IETF.ORG/NODE/VIEW/68](http://EDU.IETF.ORG/NODE/VIEW/68)

# IETF Structure and Internet Standards Process

*Scott Bradner*  
*68th IETF*  
Prague, Czech Republic



# The IETF

Internet Engineering Task Force

formed in 1986

evolved out of ARPA's Internet Configuration Control Board (ICCB) (1979) and Internet Activities Board (1983)

was not considered important for a long time - good!!  
not government approved - great!!  
people not companies

*"We reject kings, presidents and voting. We  
believe in rough consensus and running  
code"*



I E T F

Dave Clark (1992)

# IETF Overview

Internet standards R us

does not exist (in a legal sense), **no** members, **no** voting  
1K to 2K people at 3/year meetings  
many more on mail lists

121ish **working groups** (where the stuff happens)  
8 **areas** (for organizational convenience) with **ADs**

APS, GEN, INT, O&M, RAI, RTG, SEC, TSV

IESG: management (ADs + IETF Chair)

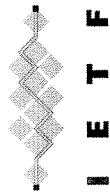
IAB: architectural guidance & liaisons

produces **standards** and other documents

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# IETF “Standards”

IETF standards: not standards “because we say so”  
standards only when people use them  
formal SDOs can create legally mandated standards  
no formal recognition for IETF standards  
by governments or “approved” standards organization  
lack of formal government input “a problem”  
at least to some governments  
no submitting to “traditional” bodies  
some keep trying to “help”



# The Role & Scope of the IETF

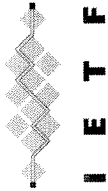
“above the wire and below the application”

IP, TCP, email, routing, IPsec, HTTP, FTP, ssh, LDAP,  
SIP, mobile IP, ppp, RADIUS, Kerberos, secure email,  
streaming video & audio, ...

but wires are getting fuzzy

MPLS, GMPLS, pwe3, VPN, ...

generally hard to clearly define IETF scope  
constant exploration of edges



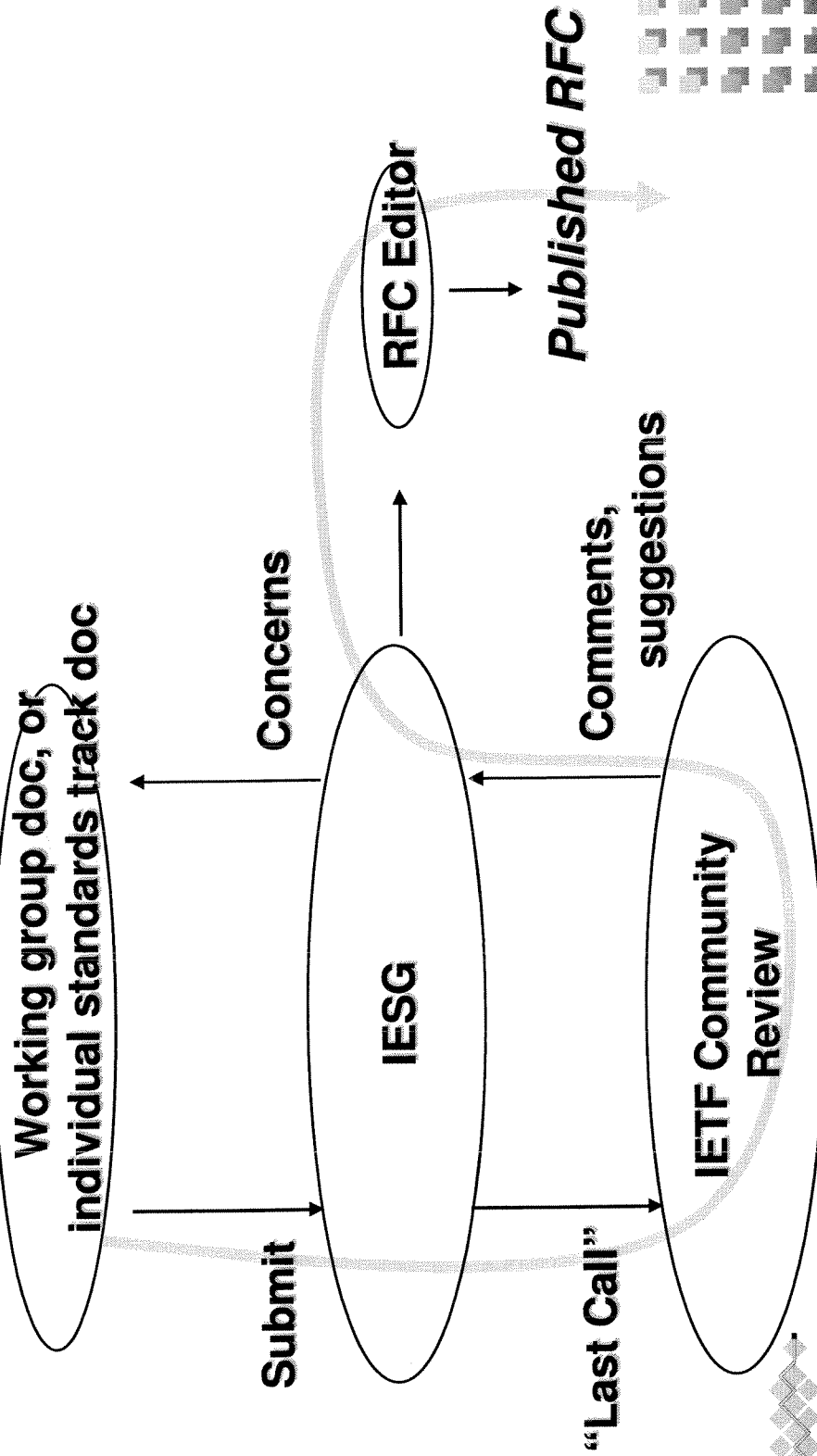
# Standards Procedure

generally Birds of a Feather (BOF) first  
most work done in a Working Group  
proposals published as Internet Drafts  
proposal reviewed by AD  
can be sent back to working group  
IETF Last-Call (4-week if no Working Group)  
IESG review  
last call comments + own technical review  
can be sent back to working group  
publication as RFC



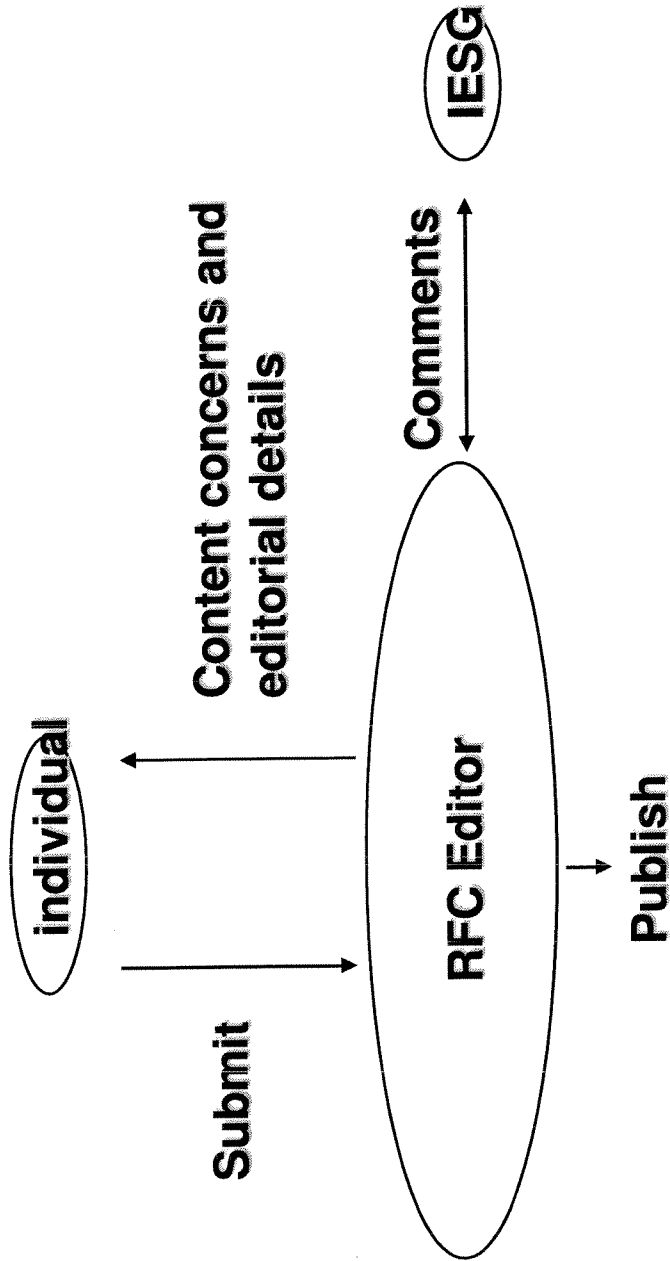
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# IETF Submission



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# Non-IETF Submissions





# IETF Documents

all IETF documents are open

i.e., anyone can download and copy

Internet Draft

IETF working documents

some I-Ds are working group documents

RFC

archival publications (never changed once published)

different types: (not all RFCs are standards!)



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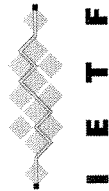
# IETF Working Documents

Internet-Draft

random or non-random thoughts  
input to the process

no admissions control other than boilerplate (see IPR)  
removed from *IETF* directory after 6 months  
but many mirrors exist

all RFCs must pre-exist as IDs  
to deal with IPR handoff  
(other than IANA or RFC Editor created ones)



# What is a RFC?

RFC used to stand for Request for Comments

now just a (brand) name

now tend to be more formal documents than early RFCs

IETF document publication series

RFC 1 *Host Software* - Apr 7 1969

now over 4400 RFCs

**not all RFCs are standards!**

see RFC 1796

though some vendors imply otherwise

many types of RFCs



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# RFC Repository Contains:

standards track

poetry

OSPF, IPv6, IPsec ...

'Twas the night before startup

obsolete Standards

white papers

RIPv1

On packet switches with  
infinite storage

requirements

Host Requirements

corporate documentation

policies

Ascend multilink protocol  
(mp+)

Classless InterDomain

Routing

experimental history

Netblt

april fool's day jokes

process documents

IP on Avian Carriers ...

IETF Standards Process

... updated for QoS

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# RFC Editor

IETF publication arm

[rfc-editor@ietf.org](mailto:rfc-editor@ietf.org)

funded by the Internet Society

semi-independent

gets requests to publish IETF IDs from IESG

also gets requests to publish independent IDs for informational or experimental RFCs

asks IESG for advice on publishing independent RFCs but can exercise own discretion

presumption is to publish technically competent IDs which sometimes is a conflict with IESG

IETF reviewing RFC Editor role



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# Standards Track RFCs:

## Best Current Practices (BCP)

policies or procedures (best way we know how)

## 3-stage standards track (currently under review)

### Proposed Standard (PS)

good idea, no known problems

### Draft Standard (DS)

PS + stable

multiple interoperable implementations

note: **interoperability** not conformance

### Internet Standard (STD)

DS + wide use

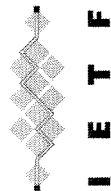
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# Other RFC Types

Informational

Experimental

Historical



# Appeals Process

IETF decisions can be appealed

start level above decision being appealed

1st to the WG chair(s)

only then to the Area Director

only then to the IESG

only then to the IAB

if claim is that the process has not been followed,  
only then an appeal can be made to the ISOC Board  
it is OK to appeal decisions – people do  
but appeals are not quick  
starting “low” is the right thing to do



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